

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A catheter system for creating an isolated blood vessel segment comprising:

a first catheter and a second catheter, each having a proximal and a distal end,
said first catheter having a first expandable occlusion device associated
therewith,

said second catheter having a second expandable occlusion device associated
therewith and being adapted to expand said second occlusion device distally of the first
occlusion device on the first catheter,

said second catheter being slidably housed within a first lumen in said first
catheter such the distance between said first and second occlusion device may be varied, the
occlusion devices being expandable to engage a wall of a blood vessel thereby substantially
isolating an interior segment of a desired extent between said first and second occlusion
devices, and

said second catheter is provided with a pressure monitoring port located
proximally of the second expandable occlusion device and open to said isolated interior
segment between said first and second occlusion devices to monitor the pressure within said
isolated interior segment and at least one of said catheters having a relatively stiff proximal
region, a softer intermediate region and a still softer distal region.

2. (Previously Presented) A catheter system for creating an isolated blood vessel segment comprising:

a catheter and a guide wire each having a proximal and a distal end,
said catheter having a first expandable occlusion device associated therewith,
said guide wire having a second expandable occlusion device associated therewith and being adapted to expand said second occlusion device distally of the first occlusion device on the first catheter,
said catheter being slidably mounted on said guide wire,
the occlusion devices being expandable to engage a wall of a blood vessel thereby substantially isolating an interior segment of a desired extent between said first and second occlusion devices.

3. (Currently amended) The catheter system of claim 1 ~~wherein the system is provided with~~ further comprising a pressure regulator coupled to said pressure monitoring port and configured to regulate the pressure of an agent infused into said isolated interior segment between said first and second occlusion devices.

4. (Currently Amended) The catheter system of claim 1 wherein said second catheter is spaced from the inner wall of said first catheter to create a coaxial lumen surrounding said second catheter a centrally located lumen.

5. (Original) The catheter system of claim 1 wherein said second catheter is provided with three lumens.

6. (Currently Amended) The catheter system of claim 4 ~~wherein said further comprising~~ a centrally located lumen is provided with having an axially extending tube.

7. (Currently amended) The catheter system of claim 1 ~~wherein said second catheter is provided with~~ further comprising an infusion port located proximally of the second expandable occlusion device and open to said isolated interior segment between said first and second occlusion devices.

8. (Currently amended) The catheter system of claim 1 ~~7 wherein said second catheter is provided with~~ further comprising a pressure sensor coupled to said pressure monitoring port and said infusion port.

9. (Previously presented) The catheter system of claim 1 wherein at least one of said first expandable occlusion device and said second expandable occlusion device comprises a balloon formed of a compliant material.

10. (New) The catheter system of claim 3 wherein said pressure regulator comprises a spring controlled reservoir.

11. (New) The catheter system of claim 1 wherein at least one of said catheters having a relatively stiff proximal region, a softer intermediate region and a still softer distal region.

12. (New) The catheter system of claim 3 further comprising an infusion port located proximally of the second expandable occlusion device and an infusion lumen coupled to said infusion port, wherein said pressure regulator is coupled to said infusion lumen and said pressure monitoring port.

13. (New) A catheter system for creating an isolated blood vessel segment comprising:
a first catheter and a second catheter, each having a proximal and a distal end,
said first catheter having a first expandable occlusion device associated therewith,
said second catheter having a second expandable occlusion device associated therewith and being adapted to expand said second occlusion device distally of the first

occlusion device on the first catheter,

said second catheter being slidably housed within a first lumen in said first catheter such the distance between said first and second occlusion device may be varied, the occlusion devices being expandable to engage a wall of a blood vessel thereby substantially isolating an interior segment of a desired extent between said first and second occlusion devices, and

a pressure regulator configured to regulate the pressure of an agent infused into said isolated interior segment between said first and second occlusion devices.

14. (New) The catheter system of claim 13 wherein at least one of said catheters having a relatively stiff proximal region, a softer intermediate region and a still softer distal region.

15. (New) The catheter system of claim 13 wherein said second catheter is spaced from the inner wall of said first catheter to create a coaxial lumen surrounding said second catheter.

16. (New) The catheter system of claim 13 wherein said second catheter is provided with three lumens.

17. (New) The catheter system of claim 13 further comprising an infusion port located proximally of the second expandable occlusion device and open to said isolated interior segment between said first and second occlusion devices.

18. (New) The catheter system of claim 17 further comprising a pressure monitoring port located proximally of the second expandable occlusion device and open to said isolated interior segment between said first and second occlusion devices, wherein said pressure regulator is coupled to said infusion port and said pressure monitoring port to regulate the pressure in said isolated interior segment between said first and second occlusion devices.

19. (New) The catheter system of claim 13 wherein at least one of said first expandable occlusion device and said second expandable occlusion device comprises a balloon formed of a compliant material.

20. (New) The catheter system of claim 17 further comprising an infusion lumen coupled to said infusion port and wherein said pressure regulator is coupled to said infusion lumen and said pressure monitoring port.

21. (New) The catheter system of claim 20 wherein said pressure regulator comprises a spring controlled reservoir.

22. (New) The catheter system of claim 4 wherein said coaxial lumen is an infusion lumen.

Appl. No. 10/664,171
Examiner Witzak, Catherine
Docket No. 13854.4002
Page No. 8 of 12

23. (New) The catheter system of claim 15 wherein said coaxial lumen is an infusion lumen.